

## **REMARKS/ARGUMENTS**

The applicant acknowledges, with thanks, the 03/23/2007 Office Action. This amendment is responsive to the 03/23/2007 Office Action.

Independent claims 1, 11 and 16 have been amended to recite that the data packet is discarded prior to decrypting the message body responsive to determining a match cannot be found for the group key contained in the data packet. This is not new matter as it is disclosed in paragraphs 22, 44 and 56 of the original specification.

## **NON-ART REJECTIONS**

Claims 16-18 stand rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter. According to the examiner claims 16-18 disclose an article of manufacture embodied in a computer readable medium, wherein the computer readable medium includes carrier wave/pulse. Applicant requests withdrawal of this rejection for reasons that will now be set forth.

It is long established that a computer readable medium embodied on a carrier wave is directed to an article of manufacture, which is statutory subject material.

Section 101 of title 35, United States Code, provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

As the Supreme Court has recognized, Congress chose the expansive language of 35 U.S.C. 101 so as to include "anything under the sun that is made by man" as statutory subject matter.

*Diamond v. Chakrabarty*, 447 U.S. 303, 308-09, 206 USPQ 193, 197 (1980). In *Chakrabarty*, 447 U.S. at 308-309, 206 USPQ at 197, the court stated: "In choosing such expansive terms as 'manufacture' and 'composition of matter' modified by the comprehensive 'any,' Congress plainly contemplated that the patent laws would be given wide scope" (see MPEP 2106(IV)(A)).

The United States Supreme Court long ago established that a carrier wave/pulse carrying information and enabling a receiving apparatus to perform a function can be patentable. In *O'Reilly v. Morse*, 56 U.S. 62 119 (1854), the dispute was over a patent for a telegraph, which a

signal input at one terminal transmitted by electro-magnetism to a receiver and reproduced. The Supreme Court held that a patent claim drawn to a signal consisting of a time-varying current capable of communicating information and enabling a receiving apparatus to print the information was patentable. *Id.* The Supreme Court's reasoned:

... Professor Morse has not discovered that the electric or galvanic current will always print at a distance, no matter what may be the form of the machinery or mechanical contrivances through which it passes. You may use electro-magnetism as a motive power, and yet not produce the described effect, that is print at a distance intelligible marks or signs. To produce that effect, it must be combined with, and passed through, and operate upon, certain complicated and delicate machinery, adjusted and arranged upon philosophical principles, and prepared by the highest mechanical skill. And it is high praise of Professor Morse, that he has been able by a new combination of known powers, of which electro-magnetism is one, to discover a method by which intelligible marks or signs may be printed at a distance. And for the method or process thus discovered, he is entitled to a patent.

*O'Reilly* at 117. This perspective has been embraced by the Federal Circuit. The Federal Circuit has stated:

The plain and unambiguous meaning of section 101 is that any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may be patented if it meets the requirements for patentability set forth in Title 35, such as those found in sections 102, 103, and 112. The use of the expansive term "any" in section 101 represents Congress's intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in section 101 and the other parts of Title 35.... Thus, it is improper to read into section 101 limitations as to the subject matter that may be patented where the legislative history does not indicate that Congress clearly intended such limitations.

*In re Alappat*, 33 F.3d 1527, 1542; (Fed. Cir. 1994)(en banc); MPEP 2106(IV)(A). In *Alappat*, the Federal Circuit court ruled that a new and useful computer software is patentable subject matter if it has a practical application that produces a concrete, useful and tangible result. (*Alappat* at 1545). The Federal Circuit noted that a claim drawn to a memory comprising a data structure with information and attribute data objects for the management of the information was found to be statutory by the Board of Patent Appeals because the claim was "directed to a

memory containing stored information” and thus “recited an article of manufacture; *In Re Lowry* 32 F.3d 1579, 1581-82 (Fed. Cir. 1994).

Since the Federal Circuit’s decisions in *Alappat* and *Lowry*, the USPTO has provided a fair amount of guidance to examiners on how to approach the patentability of software-related inventions. In its 1996 “Examination Guidelines for Computer-Related Inventions” (1996 Guidelines),<sup>57</sup> the USPTO addressed software patentability systemically, exploring issues ranging from claims to software per se to *Beauregard*-type stored software claims. Later, the USPTO issued its “Examination Guidelines for Computer-Related Inventions” (1996 Training Materials), which indicated that claims to computer data signals embodied on carrier waves would be patentable subject matter under § 101; *see* United States Patent & Trademark Office, Examination Guidelines for Computer-Related Inventions, pp. 4 and 37-39 (March 28, 1996) <http://www.uspto.gov/web/offices/pac/dapp/oppd/patoc.htm> (1996) (no longer available), *archived at* <http://web.archive.org/web/19980529122936/http://www.uspto.gov/web/offices/pac/dapp/oppd/patoc.htm> (last visited May 7, 2007) [*hereinafter* 1996 Training Materials]. A copy is provided attached to this amendment, labeled as Exhibit 1.

Among the examples given in the 1996 Training Materials was the following example, Claim 13:

A computer data signal embodied in a carrier wave comprising  
a.. a compression source code segment comprising ... [recites self-documenting source code]; and  
b. an encryption source code segment comprising ... [recites self-documenting source code].

The training materials concluded that claim 13 recites specific software embodied on a computer-readable medium, i.e. specific software embodied in a carrier wave. Because claim 13 recites a specific article of manufacture, claim 13 is directed to statutory subject matter unless the claimed data signal occurs as a natural phenomenon. A copy of claim 13 is and the notes for claim 13 are attached in the appendix of this paper (*see* Exhibit 1). Moreover, it has long been established in previous versions of the MPEP that “a signal claim directed to a practical application of electromagnetic energy is statutory.” MPEP § 2106 (page 2100-12, Rev. 1, Feb.

2000; page 2100-14 Rev. 2, May 2004; and page 2100-14, Rev. 3, August 2005 – attached hereto and labeled as Exhibits 2, 3 and 4 respectively).

In addition, a panel of the Board of Patent Appeals and Interferences has also found a ‘carrier wave’ to be directed to statutory subject matter. See *Ex Parte Rice* at <http://www.uspto.gov/web/offices/dcom/bpai/decisions/fd021554.pdf>; Appeal No. 2002-1554 (2003) (non-precedential)(Rice II). The claims in Rice were directed to an “electromagnetic signal” and an “electromagnetic signal” produced by a certain process (product by process). The examiner rejected the claims because electromagnetic signals are transitory and ephemeral. The board reversed, citing *O'Reilly* and *In re Breslow*, 616 F.2d 516, 519-21; 205 USPQ 221, 225-226 (CCPA 1980) for the proposition that “a signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature. A copy of this opinion is attached hereto and labeled Exhibit 5.

In *In Re Lowry*, the board and the examiner rejected claims on the basis that the provision of new signals to be stored by the computer does not make it a new machine, i.e. it is structurally the same no matter how new, useful, and unobvious the result. *In Re Lowry* at 1583. The Federal Circuit disagreed, stating “we say that if a machine is programmed in a certain new and unobvious way, it is physically different from the machine without that program; its memory elements are differently arranged. The fact that these changes are invisible to the eye should not tempt us to conclude the machine has not been changed.” *Id.* “In short, Lowry’s data structures are physical entities that provide increased efficiency in computer operation.” *Id.* at 1584.

Not all carrier wave signals are patentable. As noted in MPEP 2106.01, “When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory.” Non-functional descriptive material would include things such as music or ‘printed matter’ such as literary compositions.

Claims 16-18 are directed to an article of manufacture embodied in a computer readable medium for use in a processing system. All of the elements of claim 16 (upon which claims 17-18 depend) recite “logic for causing a processing system to ...” which are functional. These are not naturally occurring electromagnetic signals, but man-made signals, containing functional executable code embodied thereon, for use in a processing system and thus are an article of manufacture. In this instance, a carrier wave/signal is no different from any other memory because it enables a machine to be programmed in a new and unobvious way. Therefore, withdrawal of this rejection is requested.

## PRIOR ART REJECTIONS

Claims 11, 12, 15, 16 and 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kotani et al., U.S. Patent Application Publication No. 2001/0009582 (*hereinafter* Kotani). For reasons that will now be set forth, claims 11, 12, 15, 16 and 18 are not anticipated by Kotani.

Independent claims 1, 11 and 16 recite that when a multicast message is received by a receiver a group key name is extracted. The receiver attempts to match the group key using a table at the receiver. If the receiver does not find a match, the message is discarded prior to attempting to decrypt the message body.

By contrast, Kotani is directed to a file transfer system that uses a ‘group key’ (KG) to send a file from one terminal to another terminal. An object of Kotani is to insure a file is always transmitted encrypted. Kotani discloses that a group ID (not a group key name) is extracted during the decoding process and compared with a group ID that was inputted in advance for the authentication (see paragraph 104). If the group ID does not match, the message is not discarded, but the group ID is inputted again (*Id.*). Thus, Kotani does not disclose each and every element of independent claims 1, 11 and 16. Claims 12 and 15 directly depend from claim 11 and therefore contain each and every element of claim 11. Claim 18 directly depends from claim 16 and therefore contains each and every element of claim 16. Therefore, claims 12, 15 and 18 are not anticipated by Kotani for the same reasons as claims 11 and 16.

Claims 13, 14 and 17 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Kotani. Claims 13 and 14 directly depend from claim 11 and therefore contain each and every

element of claim 11. Claim 17 directly depends from claim 16 and therefore contains each and every element of claim 16. Therefore, claims 13, 14 and 17 are not anticipated by Kotani for the same reasons as claims 11 and 16.

Claims 1-4 and 6-9 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of the combination of Kotani and U.S. Patent Application 2004/0203598 to Arrebotu et al. (*hereinafter* Aerrabotu). The aforementioned deficiencies in Kotani is not remedied by any teaching of Arrabotu. Aerrebotu describes method for a wireless communication device to receive contact information with a signature from a source that is not on a trusted contact list. Nowhere, does Aerrabotu teach or suggest that a group key name is extracted from a packet, and discarding the packet prior to attempting to decrypt the message body is the receiver does not have a match for the packet. Moreover, the examiner relies on Aerrabotu for teaching transmitting a message from a server to a client that included a signature in the header portion that allows the receiver to validate the source of the message. This does not remedy the aforementioned deficiency in Kotani. Thus, neither Kotani nor Aerrabotu, taken alone or in combination, teach or suggest all of the elements of independent claim 1. Claims 2-4 and 6-9 directly depend from claim 1 and therefore contain each and every element of claim 1. Thus, claims 2-4 and 6-9 are not obvious in view of Kotani and/or Aerrabotu for the reasons already set forth for claim 1.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of the combination of Kotani, Aerrabotu and U.S. Patent Application 2004/0073796 to Kang et al. (*hereinafter* Kang). Kang is directed to a key descriptor data structure for generating and transmitting keying material between an Access Point and a wireless station. Moreoever, the excaminer relies on Kang for disclosing a handshake protocol for establishing user authentication and key exchange. This does not remedy the aforementioned deficiency in Kotani and/or Aerrabotu in claim 1. Claim 5 directly depends from claim 1 and thus contains each and every element of claim 1. Therefore, claim 5 is not obvious in view of Kotani, Aerrabotu and/or Kang.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of the combination of Kotani, Aerrabotu and U.S. Patent Application 2003/0005293 to Edasawa et al. (*hereinafter* Edasawa). Claim 10 has been canceled; however, the aforementioned deficiency in Kotani, Aerrabotu and Kang for claim 1 is not remedied by any teaching of Edasawa. Edasawa

Application No.: 10/686,205  
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Therefore, for the reasons just set forth, Kotani, Aerrabotu, Kang, and/or Edasawa when taken alone or in any combination thereof do not teach, suggest or disclose all of the elements of independent claims 1, 11 and 16. Claims 2-5 and 7-9 directly depend from claim 1 and therefore contain each and every element of claim 1. Claims 13-15 directly depend from claim 11 and therefore contain each and every element of claim 11. Claims 17-18 directly depend from claim 16 and therefore contain each and every element of claim 16. Therefore, for the reasons already set forth for claims 1, 11 and 16, claims 2-5, 7-9, 13-15 and 17-18 are neither anticipated nor obvious in view of Kotani, Aerrabotu, Kang and/or Edasawa. Therefore, withdrawal of these rejections is requested.

If there are any fees necessitated by the foregoing communication, the Commissioner is hereby authorized to charge such fees to our Deposit Account No. 50-0902, referencing our Docket No. 72255/00008.

Respectfully submitted,

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